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R31F Smo United States Department of Agricultura

Conservation Service

Montana Apricultural Experiment Station

Bozeman, Montana

## MONTANA WATER SUPPLY OUTLOOK

Snowpack and Streamflow Forecasts as of January 1, 1984

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE SNOW SURVEY UNIT

Federal Bidg., Rm. 443 10 East Babcock Bozeman, MT \$9715

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The Montana Water Supply Outlook is a publication of the U.S. Soil Conservation Service. The SCS administers the Cooperative Snow Survey Program in cooperation with other federal, state and private agencies, organizations, and individuals.

The report is prepared by SCS, Snow Survey and Water Supply Forecast Staff, Room 443, Federal Building, 10 East Babcock, Gozeman, Montana.

### Snowpack mostly below average

The mountains in the southern part of the State received good moisture in September while northern areas were somewhat drier. Most mountainous areas had below average snowfall during October and November. Typically, higher elevations begin to accumulate snow in late September or early October but this year the start of snow buildup was delayed until late November. December was a good snowfall month in southern areas and somewhat less in northwest drainages. Late December extremely cold temperatures to all of Montana.

On January 1, the mountain snowpack was well below average in northwest drainages encompassing the headwaters of the Rootenni, Flathead, St. Mary's, Marias, Teton and Sun River systems. The remainder of the Columbia River drainage in Montana has below average water stored in the snowpack. The snowpack increases to average or above in the more southern drainages with above average snowpack in the Red Rock and Ruby River headwaters, and portions of the Madison and Gallatin River drainages. The Crazy Mountains and parts of the Big Belt Mountains also have above average snowpack. Most headwater areas of the Yellowstone River and its tributaries have near average snowpack for this date.

This year's snowpack is similar to last season except for better snow in smiller mountain ranges in Central Montann. Another similarity to last season is that heavy snowpacks are building in states south of Montana

Soils under the snowpack are generally wetter than normal in southern drainages and average to drier than normal in northern drainages.



ALL AVERAGES IN THIS PUBLICATION ARE BASED ON THE 20-YEAR PERIOD, 1961-1980.

### Streamflow variable



Based on present conditions, runoff west of the Divide is expected to be below average on all streams. East of the Divide, spring and summer streamflows are expected to be near average from most drainages. Exceptions are those streams that flow into the Missouri River from the west downstream from Canyon Ferry Reservoir. Below average runoff is expected for this area.

Forecasts are issued only on larger rivers this month.

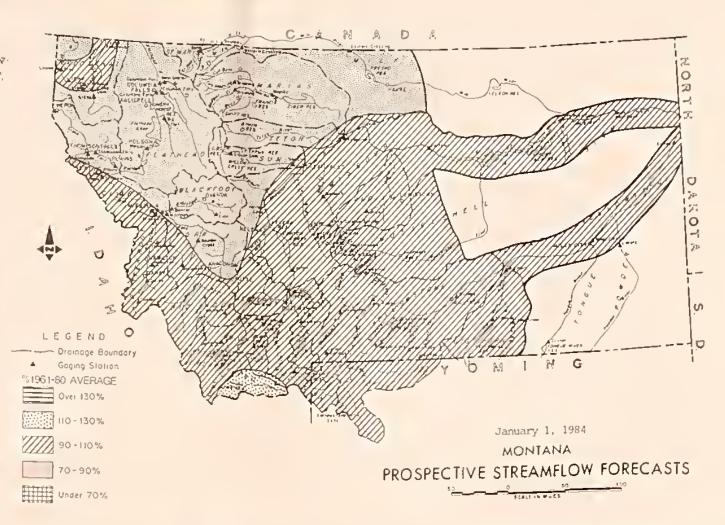
Forecasts will be issued for all streams starting next month.

### Map of snow survey sites

A map of Montana Snow Survey Sites is included in this Water Supply Outlook Report. Please keep this copy, because future issues this season will not include a map.

A few extra copies are available from the Snow Survey Office. Maps showing only SNOTEL sites are also available. If needed, additional copies may be requested.





## Missouri River & Hudson Bay Drainages

STREAMFLOW FORECASTS			105 I (A)				IMS IEAO		0.21 -1 -0.00	
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pases station of Galest Port		1, 70					* re-11*	-111111	* ****	
	F1 0 +		April	- Septem	ber		Apr (I	- July		
BIG HOLE RIVER near McIrose		750	99		760	695	100	-	698	
HADISON RIVER near HeAllister (4)		890	105	947	848	718	107	749	672	
GALLATIN RIVER near Gateway		555	102	534	545	480	103	451	464	
HISSOURI RIVER at Toston (7)		2663	105	2885	2,545	2300	105	2385	2,196	
SUN RIVER at Gibson Dam (8)				349	570			304	522	
HISSOURI RIVER at Fort Benton (9)		4023	101		3,980	3500	101		3,468	
MARIAS RIVER near Shelby		405	75	247	542	380	73	232	518	
MISSOURI RIVER at Virgelle (11)		4573	100		4,570	4030	100		4,030	
HISHOURI RIVER near Landusky (11)		4980	100		4,980	4380	100		4,383	
HISSOURI RIVER below Fort Peck Dam (II)		4960	100		4,961	4426	100		4,428	
INFLOW LAKE SAKAKAWEA, ND (11)		13000	102		12,755	11850	102		12,239	

- (1) Adjusted for storage in Lima
- (2) Adjusted for storage in Lima and Clark Canyon Reservoirs.
- (3) Adjusted for storage in Hehgen
- (4) Adjusted for storage in Hebgen Lake and Enuts Lake.
- (5) Sum of West Fork Hyalite Creek and East Fork Hyallte Creek above the Reservoir.
- (6) Adjusted for storage in Hiddle Creek Reservoir.
- (7) Adjusted for storage in Lima, Heb-gen, Ennis & Clark Canyon Reser-
- (8) Adjusted for storage In Gibson Reservoir & diversions.

RIVER BASIN	Courter of	THIS YEA	H S SHOW ENCENT OF
SUB-HAT ERSHED	A-milded	Lett Year	A-m ej e i
Beaverhead	16	83	118
Ruby	5	101	118
Big Hole	15	77	87
Boulder	12	56	68
Jefferson	48	79	99
Madison	23	87	111
Gallatin	16	100	101
Missouri Headwate	r 87	85	103
West-side Hissour	i		
(Toston-Cacade)	9	62	67
Smith-Belt-Arrow	7	111	92
Hissouri Hain-ste	m 16	86	81
Teton & Sun	5	83	57
Marias	3	65	55
Marias-Teton-Sun	8	73	56
Judith-Musselshel	I 10	108	92
Milk	10	73	64
Bear Paws	6	157	102
Missouri (Total)	121	86	96
Saskatchewan St. Mary's Bow River in	5	60	57

Alberta ..... -- -- --

(9) Adjusted for storage in Lima, Clark Canyon, Hebgen, Ennis, Gib-son, Pishkun, Willow Creek & Canyon Ferry Reservoirs. (10) Adjusted for storage in Two Hedi-

cine Reservoir & diversions in Two Hedicine Canal. (11) Adjusted for all upstream

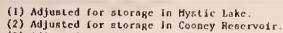
reservoirs. [12] Flow at Eastern Crossins

minus St. Mary's Canal. (13) Adjusted for storage in Lake Sherburne.

ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE

# Yellowstone River Drainage

· Constitution of the contract		1 (+4)	FT ALT	[ Thorase F	11 [11]	L USE	CASE	(DPSOPH)	81_81, * ( ) T
HAZDE STALAN - 2 to EDALCASE LODGE		11 201 400	1	1.600-	1 1,0	(hougen) And head	Parjantul Autore	L 111 1 1 0:	•
	10 Keg		April -	Septemb	er		April	- July	
YELLOWSTONE RIVER at Corwin Springs  YELLOWSTONE RIVER mear Livingston CHANGE FORK HIVER mear Meilty  YELLOWSTONE RIVER at Billings  BIGHORN RIVER mear St. Xavier (3)  YELLOWSTONE RIVER at Miles City (4)  YELLOWSTONE RIVER mear Sidney (5)		2550 645 4666 2109 7070	107 107 103 104 107 104	1725 3133/ 2060	2,027 2,379 628 4,516 1,976 6,787 7,518	1820 2125 570 4000 1920 6150 6800	108 108 101 104 107 104 104	1397 3793 1849	1,686 1,969 563 3,833 1,794 5,906 6,544



STREAMFLOW FORECASTS

(3) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake,

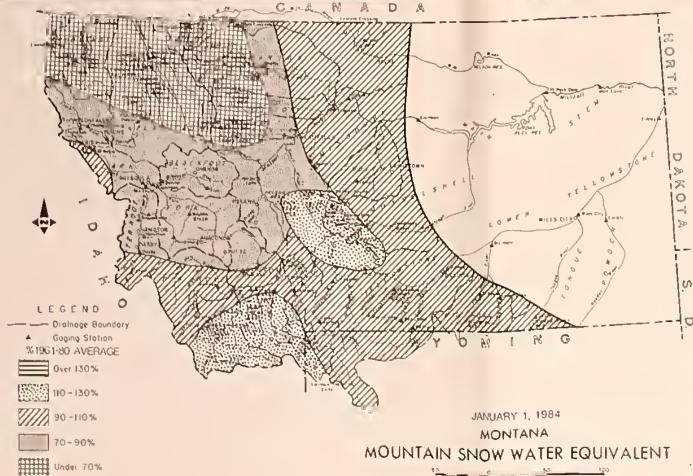
Pliot Butte and Bighorn Reservoirs. (4) Adjusted for atorage in Bull Lake, Buffalo Bill, Boysen,

Pilot Butte, Bighorn and Tongue River Reservoirs.
(5) Adjusted for reservoirs shown in (4) and diversions into the Lower Yellowstone Canal.

ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE







#### SUMMARY OF SHOW MEASUREMENTS

RIVER BASIN	Rumbir of	THIS YEA	AR S SHOW
and m	Courses		CACENT OF
WB++1(R5/40	Armetry	CITI YOU	Armije †
Upper Yellowstone	2		
ab Livingston	. 13	121	96
Shields		119	103
Boulder &			
Stillwater	. 3	111	90
Rock Creek &			
Clark's Fork	. 12	116	93
Yellowstone (ab			
Bighorn River) .	34	118	95
Bighorn/Wyoming .	. 6	105	108
Little Bighorn			
Bighorn (Total)			
Tongue			
Powder			
Yellowstone			
(Total)	. 40	116	97



SNOW SURVEY DATA

OW January 1984			THISTEAR		PAST REC	
DRAINAGE BASIN AND OF SHOR COURSE		Date of Survey A	Snew Depth Triches I	Pear Control (broke) 0	Para Carsell	VAM-050
144	Elwa on				C01+100	
ARCH FALLS	7350	K/27	2.5	5.3	5.0	5.7
SHLEY DIVIDE	4820	K/27	1.8	2.2	3.4	3.3
SHLEY LAKE	4000	K/27	1.6	1.6	2.6	2.7
ADGER PASS PILLOW	6900	1/01	SP	6.8	8.1	13.3
ANEIELD MOUNTAIN	5600	K/28	2.5	5.2	10.0	11.1
ANFIELD MOUNTAIN PILLOW	5600	1/01	SP	5.2	9.8	8.5
BARKER LAKES PILLOW	8250	1701	SP	5.3	11.8	8.1
BASTN CREEK	7180	K/29	1.6	3.0	6.6	3.8
ASIN CREEK PILLOW	7130	1701	S P	2.0	4.8	2.7
BEAGLE SPRINGS PILLOW	8850	1/01	SP	4.0	3.6	3.2
BEAR PAW SKI AREA	5200	K/26	1.4	1.8	1.8	3.2
BIG SKY	7700	1/03	3 4	8.7	7.9	6.8
BLACK BEAR	7950	K/27	6.4	19.0	25.3	16.3
BLACK BEAR PILLOW	7950	1/01	SP	18.4	20.3	15.5
BLACK PINE	7100	K/28	1 9	3.6	4.1	4.9
BLACK PINE PILLOW	7100	1701	S P	4.2	4.8	6.0
LOODY DICK	7600	K/27	SS	5.2		- n
BLOODY DICK PILLOW	7550	1/01	SP	3.7	5.4	5.8
BOULDER MOUNTAIN	7950	K/27	3.6	8.4		
BOULDER MOUNTAIN PILLOW	7950	1 / 0 1	SP	10.8	9.6	10.8
OX CANYON PILLOW	6700	1/01	SP	3.4	3.5	3.9
RIDGER BOWL	7250	K/29	4.1	11.8	9.0	11.6
BRIDGER BOWL PILLOW	7250	K/29	S P	10.0	8.5	11.3
ALVERT CREEK	6430	K/29	2.1	4.2		
ALVERT CREEK PILLOW	6430	1/01	SP	3.5	3.6	4.6
ARROT BASIN	9000	K158	5.8	17.6	19.4	16.2
ARROT BASIN PILLOW	9000	1/01	SP	15.3	15.9	12.6
ASHE CREEK PILLOW	7800	1/01	SP	3.8	2.7	1.5
HESSMAN RESERVOIR	6200	K/29	10	1.5	3.2	8.0
LOVER MEADOW PILLOW	8800	1/01	S P	10.5	7.0	9.0
OLE CREEK	7850	K/29	2.9	7.0	9.7	7.4
OLE CREEK PILLOW	7850	1/01	S P	6.6	10.7	2.4
COMBINATION	5600	K/28	14	1.9	3.0	2.4
COMBINATION PILLOW	5600	1/01	SP	2.6 3.2	3.4	-
OPPER BOTTOM	5200	K/20	18		3.3	5.8
OPPER BOTTOM PILLOW	5200 6950	1/01	SP	5.6 7.8	5.1 10.0	7.0
COPPER CAMP		K/20	3 1 S P			16.9
OPPER CAMP PILLOW	6950	1/01	21	8.1	10.4 5.0	10.7
OPPER CREEK	5700	K/50	59	6.7	7.5	_
OPPER LAKE CREEK	6100	K/20		3.0	4.0	4.5
COYOTE HILL	4200	K/28	20 S P	5.1	6.0	5.7
RYSTAL LAKE PILLOW	6050 7600	1/03	2.1	4.2	4.8	5.5
DAISY PEAK	5780	1/03	SP	4.0	6.0	5.5
DALY CREEK PILLOW	8700	1/01	5 P	13.3	8.9	9.9
DARKHORSE LAKE PILLOW		K/29	23	4.6	3.5	5.1
DEADMAN CREEK	6450 6450	1/01	2 3 S P	4.3	3.5	5.2
DEADMAN CREEK PILLOW				4.6		6.9
DESERT MOUNTAIN	5600	K/28	23	9.6	8.1	10.5
DEVILS SLIDE	8100 7050	K/27		3.4		4.7
DISCOVERY BASIN			19		4.0	

4.	SNOW January 1984			What had a se			
*	CRAMINES BASIN ON - SNOO COURSE			THIS YEAR	<u> </u>		RI CORD
*	NAME 1	Emman	Done of Sursey	Source Debuth (Inches)	Water Centers!	( oo; ) oo	Avii ese
2	hea					( 001 7 00	Vill offe
*	MEZ PERCE CAMP	5650	K/26	2.4	5.5		-
**	HEZ PERCE CAMP PILLOY	5650	1/01	SP	5.9	5.9	6.4
*	NDISY BASIN	6040	K/28	7.2	18.0	25.3	17.8
7	NDISY BASIN PILLOW	6040	1701	SP	17.2	19.3	15.9
*	NORTH FK. ELK CREEK	6250	K/30	2.1	4.5	5.3	5.4
*	NORTH FK. ELK CREEK PILLOW	6520	1/01	SP	4.1	5.4	4.7
*	NORTHEAST ENTRANCE	7350	1/03	5.5	4.3	2.8	4.0
*	NORTHEAST ENTRANCE PILLOW	7350	1/01	SP	3.8	3.3	4.4
*	DPHIR PARK	7150	K/30	2.6	5.6	7.6	7.5
*	PETERSON NEADOWS	7200	K/27	1.8	3.1	4.6	4.4
*	PETERSON MEADOWS PILLOW	7200	K/27	\$ P	3.6	5.0	4.8
<u> </u>	PICKFOOT CREEK	6650	K/27	2.5	5.5		-
*	PICKFOOT CREEK PILLOW	6650	1/01	SP	5.9	5.6	4.3
*	Pire cheek	5930	K/27	3.2	6.6	11.0	-
*	PIRE CREEK PILLOW	5930	1701	5 P	6.7	11.9	12.5
*	PLACER BASIN PILLOW	7200	K/28	Ô	1.0	2.9	2.1
*	POORMAN CREEK	8830	1/01	S P	8.0	6.9	9.0
- 8	PODRMAN CREEK PILLOW	5100	K/28	4.4	10.8	14.5	15.7
- #	PORCUPINE	\$100	1/01	S P	10.3	12.6	12.4
*	PORCUPINE PILLOW	6500	K/30	1 7	3.9		-
*	RED TOP	6500	1701	SP	3.4	3.4	2.9
*	PDCKER PEAK	5260	K/27	37	9.1	12.7	13.7
*	ROCKER PEAK PILLOW	8000 8000	K/28	5.5	3.7	5.8	6.9
*	RDCKY BOY	4700	1701 K726	S.P.	3.4	6.6	6.9
*	ROCKY BOY PILLOW	4700	K726	13 5 P	1.5	1.2 1.8	1.9
**************************************	SADDLE MOUNTAIN	7940	K/27	37	1.8 9.5	11.2	1.9
- 4	SADDLE MOUNTAIN PILLOW	7900	1/01	\$ P	10.8	11.3	11.5
*	SHOWER FALLS	8100	K/27	4.1	10.3	10.6	11.1
8	SHOWER FALLS PILLOW	8100	1/01	SP	11.1	10.8	10.8
	STLVER RUN	6630	K/29	1.2	2.4	1.9	2.4
- 7	SILVER RUN PILLOW	6630	1701	SP	2.4	1.7	1.5
*	SKALKAHO SUMMIT	7250	K/27	3.1	6.9	8.0	11.8
- X	SKALKAHO SUMMIT PILLOW	72.50	1/01	SP	7.4	8.1	12.3
- 4	SKYLARK TRAIL PILLOW	6200	1/01	SP	10.1	10.5	_
7	SOUTH FORK SHIELDS	8100	K/30	4.3	12.2	11.4	_
÷	SOUTH FURK SHIELDS PILLOW	8100	1/01	SP	9.0	7.4	6.8
	SPUR PARK	8100	K/29	3.4	8.2	7.6	9.6
÷	SPUR PARK PILLOW	8100	1701	SP	9.2	8.6	10.4
*	STAHL PEAK	6030	K728	5.1	14.6	14.8	19.7
7	STAHL PEAK PILLOW	6030	1/01	SP	12.6	14.6	17.7
+	STORM LAKE	7780	11.727	24	5.0	8.2	5.6
7	SUCKER CREEK	3960	K/26	1.3	1.8	, t <sub>e</sub>	0.4
÷	TAYLOR ROAD	4080	K/26	1.6	2.2	1.0	1.9
7	THE CONCIL	6600	K/28	1.7	8.6	4.2	
÷	TEN MILE MIDDLE	68 00	K/28	5.0	3.5	5.1	4.7
4	TEN MILE UPPER	8000		2.5	4.4	6.4	5.7
3	F TEPEE CREEK	8000	K/28	3.2	8.4	8.0	7.1
4	TEPEE CREEK PILLOW	8000		\$ P	7.7	7.4	5.9
	F TRUMAN CREEK	4060	K/27	1.6	1.8	2.0	1.7
•	THELVEMILE CREEK	5600		3.5	7.1		8.5
	* THELVEMILE CREEK PILLOW	\$600		S.P.	6.6	6.0	7.
	THENTY-ONE MILE	7150			6.8		7.7
	TVIN LAKES	6510	K/29	4.5	11.8	13.2	17.7
	TEN MILE MIDDLE  1EN MILE UPPER  TEPEE CREEK  TEPEE CREEK  TWELVEMILE CREEK  TWELVEMILE CREEK  TWELVEMILE CREEK  TWENTY-ONE MILE  THIN LAKES						

DRAINAGE BASIN MAJON SHOW COURSE		Oele	Show Depth	Reser Consent	Reim Contr	ni (in[h+o]	*
NAME OF THE OWNER OWNER OF THE OWNER	Elevation	ol Survey	(Inchai)	[Inches]	Lent Trise	Avr-ege 1717	#
							*
			2.4				**************************************
DIX HILL	6400	K/30	2.1	4,4	6.7	5.1	* .
EMERY CREEK	4350	K/28	2.8	4.8	10.8	6.3	* '
EMERY CREEK PILLOW	4350	1/01	SP	4.9	7.6	6.9	* .
FISH CREEK	8000	K/28	1.7	3.2	7.7	4.3	*
FISHER CREEK PILLOW	9100	1/01	SP	16.0	13.0	16.1	* '
FLATTOP MOUNTAIN PILLOW	6300	1/01	SP	13.7	20.5	21.6	* !
FLEECER RIDGE	7500	1/03	19	4.0	4.8	4.8	夢り
FOURTH OF JULY	3450	K/30	2.1	3.1	4.3	4.4	* L
FRIDAY HILL	4620	K/30	3.0	6.7	9.2	11.0	8 1
FROHNER MEADOWS	6480	K/S9	1.5	5.6	5.0	3.7	* 6
FROHNER MEADOWS PILLOW	6480	1/01	S P	3.0	5.0	3.4	* :
GARVER CREEK	4250	K158	1.8	3.8	5.5	5.6	* W
GARVER CREEK PILLOW	4250	1701	S P	2.7	5.6	5.0	₩ B
GIBBONS PASS	7100	K/27	3.5	8.9	10.6	9.4	* C
GRAVE CREEK	4300	K/28	24	5.2	7.3	7.7	* H
GRAVE CREEK PILLOW	4300	1/01	S P	5.4	9.6	8.1	* H
HAND CREEK	5030	K/28	SS	4.0	4.7	5.6	* 1
HAND CREEK PILLOW	5030	1/01	SP	3.4	4.9	7.0	8 i
HAWKINS LAKE	64 50	K/28	3 4	8.9	14.5	15.5	* K
HAWKINS LAKE PILLOW	6450	1/01	S P	7.6	12.5	13.6	8 0
HEART LAKE TRAIL	4800	1/92	3.5	8.6	7.6	8.5	* [
HEBGEN DAM	6550	K/29	5.6	6.0	7.4	5.0	# L
HELL ROARING DIVIDE	5770	K/29	39	10.0	13.0	14.1	* M
HOOD MEADOW	6600	K/27	5.5	4.6	4.3	5.3	# M
HOODOO BASIN	6050	1/02	6.5	18.1	21.2	20.1	* · MI
HOODOO BASIN PILLOW	6050	1/01	S P	14.2	18.0	18.6	# S:
HOODOO CREEK	5900	1/02	5.8	17.3	18.8	17.8	# 5
JOHNSON PARK	6450	1/03	1.8	3.5	5.6	3.3	* SI
KINGS HILL	7500	K/29	2.4	5.0	4.5	6.7	# T/
KIWANIS CAMP	3720	K/26	1 3	1.6	. 6	1.1	* v.
KRAFT CREEK PILLOW	4750	1/01	SP	6.2	6.7	, n	* 111
LAKE CREEK	6100	K/28	2.3	5.2	5.4	4.N 5.4	* WI
LAKEVIEW CANYON	6930	K/27	2.1	5.1	9.8	4.8	* * * * * * * * * * * * * * * * * * *
LAKEVIEW RIDGE	7400	K/27	2.1	5.1	9.2	5.0	₩ Bi
LAKEVIEW RIDGE PILLOW	7400	1/01	SP	6.8	10.3	-	¥ Bi
LEMHI RIDGE	8100	K/27	24	5.0		4.3	# BI
LEMHI RIDGE PILLOW	8100	1/01	SP	3.4	4.2	4.2	* * * E L L
LICK CREEK	6860	K/27	5.5	3.6	5.3	3.9	¥ E
LICK CREEK PILLOW LONE MOUNTAIN	6860 8880	1/01	SP	3.9	10.9	10.0	* L
LOST HORSE	5940	1/03	4 4 3 9	11.3	10.4	13.3	*
LOJER TWIN PILLOW	7900	K/29	_	9.6		10.3	* N
LUBRECHT FLUME	4630	1/01	SP	9.8 2.0	12.7	2.5	***** N 0 P s
LUBRECHT FLUME PILLOW	4680	K/29	13		3.7	2.1	÷ P
LUBRECHT FOREST # 3	5450		S P 1 6	2.7	3.2		M- "
LUBRECHT FOREST # 4	4650	K/30	1.2	1.7	1.6	1.7	s s
LUBRECHT FOREST # 6	4040	1/02	13	2.0	2.0	1.7	* T
LUBRECHT HYDROPLOT	4200	K138	1.5	5.5	2.4	3.0	<b>大</b>
MADISON PLATEAU	7750	K/27	41	10.0	14.5	9.5	¥ T
MADISON PLATEAU PILLOW	7750	K127	SP	10.0	12.9	10.0	중 W
MANY GLACIER	4900	1.150		4.9	8.5	9.8	뜻 내
MANY GLACIER PILLOW	4900	1/31	SP	4.7	8.1	9.2	<b>子 Y</b> Y
MARIAS PASS	5250	K/31	2.4	4.6	7.8	6.9	光 ド F
MAYNARD CREEK	6210	K/29	28	6.7	5.7	6.4	**************************************
MAYNARD CREEK PILLOW	6210	K/29		5.1	4.5	5.5	¥ G
MONUMENT PEAK PILLOW	8850	1701	SP	8.9	7.8	9.6	* .
MOULTON RESERVOIR	6850	K/29	1.8	2.2	3.0	3, 1	*
MOUNT LOCKHART	6400	K/31	2.5	5.4	7.4	9.0	大
MOUNT LOCKHART PILLOW	6400	1/01	SP	5.3	7.3	9.1	<del>*</del>
MULE CREEK PILLON	8350	1/01	SP	5.5	5.0	7.7	* * 59
NEVADA CREEK PILLOW	54 90	1/01	SP	4.3	5.0	6.8	* 59 * A
HENTON MOUNTAIN	5600	K/27	44	11.0	16.3	17.1	*

DIVID	E PILLOW	7800	1701	S P	6.0	6.8	4.4	*							
****	******	*****	*****	*****	****	*****	*****	*****	******	****	*****	*****	*****	****	****
SNOW	January 1984			THIS YEAR		PAST I	RECORD	, 🖁 SNOW	January 1984			THEYEAS		PASI	NECONII.
	DRAINAGE BASIN MAJON SHOW COURSE		() e1e	Sno= Depth	Reser Consent	Rein Cont	ent (in) he of	* [	DRAINAGE BASIN MAZIN SHOR COURS!		2000	Une Day 2	0 (.m.)		pel (mot o)
	NAME OF THE STATE	Elevation	ol Survey	(Inches)	(Inches]	Last Title	Avr-age 1111	] # 🗔	-HAMT	E (0+H,ets)	]	1 ledda oj	140000	1	y wincel
								* 1915	LAKES PILLOW	6400	1/01	SP	13.8	13.1	17.
DIX H	ILL	6400	K/30	2.1	4.4	6.2	5.1	* WAL		5600	K/31	1.5	2.8	3.7	3.1
	CREEK	4350	K/28	2.8	4.8	10.8	6.3	*	RON PILLOW	5600	1/01	SP	2.6	3.9	4.
MERY	CREEK PILLOW	4350	1/01	SP	4.9	7.6	6.9	* WAR	1 SPRINGS	7800	1/03	3.1	7.4	6.8	10.
FISH (	CREEK	8000	K/28	1.7	3.2	7.7	4.3	- ∰ WAR!	1 SPRINGS PILLOW	7800	1701	5 P	8.6	8.3	11.4
FISHER	R CREEK PILLOW	9100	1/01	SP	16.0	13.0	16.1	# WEAS	SEL DIVIDE	5450	K/28	3.8	9.9 5.8	15.5	5.
FLATT	OP MOUNTAIN PILLOW	6300	1/01	SP	13.7	20.5	21.6		YELLOWSTONE	6700	K/31	2.8 S.P	6.0	5.8	4.
FLEECE	ER RIDGE	7500	1/03	1.9	4.0	4.8	4.8	₩ES1	YELLOWSIONE PILLOW	6700	K/31 K/27	38	9.0	11.5	7.
	H OF JULY	3450	K/30	2.1	3.1	4.3	4.4	- 24	KEY CREEK	6800 6800	1/01	5 P	7.7	9.6	7.
	Y HILL	4620	K/30	30	6.7	9.2	11.0		KEY CREEK PILLOW	8700	1/01	SP	10.B	9.0	11.
	ER MEADOWS	6480	K/59	15	2.6	5.0	3.7	M	E MILL PILLOW	6500	K/29	1.7	4.1	4.4	3.
	ER MEADOWS PILLOW	6480	1/01	5 P	3.0	5.0	3.4	77	OW CREEK CREEK PILLOW	5960	1/01	5.0	2.2		5.
	R CREEK	4250	K/28	1.8	3.8	5.5	5.6 s.n		E BURKE (1D)	4100	K/27	3.0	5. R	7.8	8.
	R CREEK PILLOW	4250	1/01	SP	2.7	5.6	5.0	M.	SPRINGS (10)	6500	K/30	3.8	9.3	11.7	8.
	NS PASS	7100 4300	K/27 K/28	3 5 2 4	8.9 5.2	10.6	9.4 7.7	7	CREEK (ID)	6580	x.121	2.4	4.4	9.0	4.
	CREEK PILLOW	4300	1/01	5 P	5.4	7.3 9.6	8.1	1.4	OLDI GULCH (1D)	4250	K159	2.3	3.6	6.0	
	CREEK	5030	K/28	5.5	4.0	4.7	5.6		OLDT GULCH PILLOW (TD)	4250	1701	SP	4.4	1 (1 D	
	CREEK PILLOW	5030	1/01	ŚP	3.4	4.9	7.0	# 1SLA	ND PARK (ID)	6290	K/30	3.5	7.9	10.8	6.
	VS LAKE	6450	K/28	3.4	8.9	14.5	15.5	I ISLA	ND PARK PILLOW (ID)	6290	1/01	S P	7.5 5.8	в. ч	4.
	NS LAKE PILLOW	6450	1/01	SP	7.6	12.5	13.6		ORE (10)	6320	K139	2 B 3 S	8.0	8.8	12.
	LAKE TRAIL	4800	1/02	3.5	8.6	7.6	8.5	# FOFO	PASS (ID)	5230	1701	5.0	10.2	-	
	N DAM	6550	K/29	26	6.0	7.4	5.0		PASS PILLOW (ID)	5230 5250	K/30	4.9	11.7	16.8	14.
ELL I	ROARING DIVIDE	5770	K/29	3.9	10.0	13.0	14.1		OUT (10)	6200	8.728	3.0	7.6	8.8	7.
100b :	MEADOW	6600	K/27	2.2	4.6	4.3	5.3	M002	E CREEK (10) E CREEK PILLOW (10)	6200	1701	\$ P	8.3		-
10000	D BASIN	6050	1/02	6.5	18.1	21.2	20.1	# MOCO	UITO RIDGE PILLOW (ID)		1/01	5 P	12.9		-
10000	D BASIN PILLOW	6050	1701	S.P.	14.2	18.0	18.6	SAVA	SE PASS PILLOW (ID)	6170	1/01	\$ P	9.0	-	-
10000	O CREEK	5900	1/02	5.8	17.3	18.8	17.8	# CAUTI	ELL MOUNTAIN (10)	8720	K / 30	6.5	20.7	23.1	13.
	ON PARK	6450	1/03	1.8	3.5	5.6	3.3	* SUNSE	1 PILLOW (ID)	5540	1/01	SP	15.3		
	HILL	7500	K/29	2.4	5.0	4.5	6.7		HEE PASS (10)	6980	K/30	5.3	6.6	9.0	6.
	1 S CAMP	3720	K/26	1 3	1.6	. 6	1.1		Y VIEW (ID)	6680	K/ 50	3.0	6.7	10.1	6.
	CREEK PILLOW	4750	1/01	SP	6.2	6.7	4.0	🧸 WHITI	ELEPHANT (ID)	7710	K/30	4.6	13.3	15.5	9.
	CREEK	6100	K/28	2.3	5.2	5.4	5.4		E ELEPHANT PILLOW (ID)	7710	1/01	5 P E S T	13.7		10
	1 EW CANYON	6930	K/27	2.1	5.1	9.8	4.8		MOUNTAIN (WY)	9380	1/01 1/01	5 P	10.2	10.8	9.
	LEM RIDGE	7400	K/27	2 1 S P	5.1 6.8	9.2	5.0	* BALD	MOUNTAIN PILLOS (MY)	9380 9270	1701	S P	8.8	5.1	
	TEW RIDGE PILLOW RIDGE	8100	K/27	24	5.0	10.3	-		TOOTH LAKE PILLOW (WY)	7830	1/01	EST	3.5		- 3
	RIDGE PILLOW	8100	1/01	SP	3.4	4.2	4.8	**	ESS R.S. (WY)	6960	K 7 5 1	26	4.8	5.7	4.
	CREEK	6860	K/27	5.5	3.6	5.3	4.2		ENTRANCE (WY)	9200	1/01	SP	13.1	6.9	
	CREEK PILLOW	6860	1/01	SP	3.9	4.1	3.9		ING STAR PILLOW (WY)	7780	K/30	5.3	4.0	5.3	5.
	MOUNTAIN	8890	1/03	44	11.3	10.9	10.0		CAMP (WY)	7380	1702	2.1	4.2	4.4	4.
	HORSE	5940	K/29	3.9	9.6	10.4	13.3	* NUBB	IS BASTH (WY)	7500	K/31	2.4	4.1	4.7	5
	TWIN PILLOW	7900	1701	SP	9.8	12.7	10.5		FAITHFUL (WY)	74/10	K/30	5.0	6.4	7.7	7
UBREI	CHT FLUME	4630	K/29	1.3	2.0	3.6	2.5		ERS PEAK PILLOW (WY)	9400	1791	SP	11.8		1.2
	CHT FLUME PILLOW	4680	1/01	SP	2.9	3.7	2.1		AU LAKE PILLOW (WY)	8420	1/01	\$ P	12.0	10.5	
U9RE	CHT FOREST # 3	5450	K/30	1.6	2.7	3.2	2.8		AN PASS (WY)	7100	K / 31	2.7	5.2	6.0	6
JJ9 RE	CHT FOREST # 4	4650	K/30	1.2	1.7	1.6	1.7	7-	B DIVIOE (WY)	7980	1/03	5.5	8.4	9.7	- 8
UBRE	CHT FOREST # 6	4040	1/02	1.3	2.0	5.0	1.7		OTEE PASS (WY)	9580	1794	5.5	16.5	13.2	1.3
	CHT HYDROPLOT	4200	K158	1.5	5.5	2.4	3.0	₽ TROU	1 CREEK PILLOW (WY)	8400	1701	SP	3.1	2.6	
	ON PLATEAU	7750	K/27	41	10.0	14.5	9.5	# TWO	OCEAN PLATEAU PILLOW	(W9160	1/91	SP	14.8	s 1	5
	ON PLATEAU PILLOW	7750	K727	S P	10.0	12.9	10.0	# MOLV	ERINE (WY)	7650	K/31	2.4	4.1	5.1	5
	GLACIER	4900	K\50	2.5	4.9	8.5	9.2		ENINE BILLON (NA)	7650	1/01	5 6	4.3	6.7	15
	GLACIER PILLOW	4900	1/31	S P	4.7	8.1	6.9		IS PEAK PILLOW (AY)	935D	1701	F S T	13.8	13.1	2.5
	SPASS	5250	K/31	2.4	4.6	7.8	6.4	v -	LITY MOUNTAIN (BC)	6130	к/31 к/31	31	5.8	8.1	13
	RD CREEK	6210	K/29	2.8	6.7	5.7 4.5	5.5		16R (0C)	4100	1/01	24	5.1	7.3	. 6
	RD CREEK PILLOW	6210	K/29	S P S P	5, 1 8.9	7.8	9.6		CREEK LOWER (BC)	5030 5410	1701	24	4.1	3.9	1
	ENT PEAK PILLOW	8850 6850	1/01 K/29	13	2.2	3.0	3.1	* . LEK	ING HORSE (OC)						
	ON RESERVOIR LOCKHART	6400	K/27 K/31	2.5	5.4	7.4	9.0	*	SEE PACE	4 FOR LAT	E ARRIV	ING DATA.			
	LOCKHART PILLOW	6400	1/01	SP	5.3	7.3	9.1	*							
	COCK HALL LICEON	07.00	4.65		C C	5 0	7.7	*					HOTE:	K = Dec	ember.

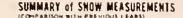
P - Snow Pillow observation; water content only. \* Etimated from SHOTE. HOTE: K = December - Aerial observation; water content etimated. MONTANA WATER SUPPLY OUTLOOK Page 3

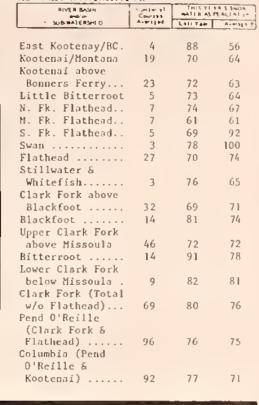
## Columbia River Drainage

STREAMFLOW FORECASTS	1 = 15.9	EAS			1005	1610	PA51 0	((0))	THIS	1,,,	62.1	el +
	9 11	[44]		2 21	I OAI	C151	THQU51ND /	CRI ! (III	FORE	CAST	THOUSASTER	- 41 +1 +1
19514 STREAM OR OFFICAST FOWI	April	Pr +== . A ==   .	- +-	A . 0 - 0 -	Pare Laure	Parter   2 *   4 +   2   2	\$31113 pr	A+++1 1	Thousand Area Feet	Bangang gl. Asmaga	Ciption	2.5 9.5
Livid	A	pril ·	September			April	· July			April	• June	
KOOTENAI RIVER below Libby Dam (1)	6,750	96		7,041	5,750	96		6,020				
KOOTENAI RIVER at Leonia (1)	8,350	97	7.948	8,602	7,260	97	6,857	7,498	5870	97	5,157	6,051
BLACKFOOT RIVER near Bonner	790	79		999	705	78		904	610	78		782
CLARK FORK RIVER above Milltown (6)	710	87		816	620	88		708	520	87		597
CLARK FORK RIVER above Missoula	1,500	83	1,362	1,815	1,325	82	1,133	1,612	1,130	82	880	1,379
BITTERROOT RIVER near Darby	525	91		580	484	91		532	425	92		464
SITTERROOT RIVER at Missoula (9)	1,320	88		1,504	1,219	88		1,384	1,055	89		$-1_{+}191_{-}$
CLARK FORK RIVER below Missoula	2,820	85		3,319	2,544	85		2,996	2,185	85		2,570
CLARK FORK RIVER at St. Regis	3,760	96	3,450	3,933	3,400	97	3,073	3,504	3,320	97	2,437	3,428
NORTH FORK FLATHEAD RIVER near Columbia Falls	1,490	78		1,913	1,350	78		1,732	1,150	78		1,471
MIDDLE FORK FLATHEAD RIVER near West Glacier	1,570	84	1,545	1,869	1,440	84	1,401	1,713	1,230	85	1,122	1,453
SOUTH FORK FLATHEAD RIVER near Columbia Falls (10)	1,950	86	1,847	2,278	1,820	85	1,715	2,142	1,610	85	1,416	1,886
FLATHEAD RIVER at Columbia Falls (10)	5,130	83	4,943	6,208	4,750	83	4,508	5,721	4,120	84	3,654	4,921
FLATHEAD RIVER near Polson (11)	6,075	83	6,130	7,278	5,580	83	5,538	6,712	4,810	84	4,420	5,759
CLARK FORK RIVER near Plains (11)	10,100	83	9,880	12,153	9,180	83	8,748	11,071	7,840	83	6,902	9,459
CLARK FORK RIVER at Whitehorse Rapids (12)	11,100	82		13,575	10,100	82		12,351	8,640	82		10,570

- (1) Adjusted for storage in Lake Koocanusa.
- (2) Adjusted for storage in Silver Lake, diversions to and pumping from Georgetown Lake.
- (3) Adjusted for storage in Georgetown Lake, diversions from and pumping to Silver Lake.
- Sum Flint Creek at Haxville and
- Boulder Creek at Maxville. (5) Sum of North Fork Lower Willow Creek near Hall and South Fork Lower Willow Creek near Hall.
- Difference in observed flow Clark Fork above Missoula and Blackfoot near Bonner.
- (7) Adjusted for storage in Painted Rocks Reservoir.
- (8) Adjusted for diversion into Sunset Highline Canal.
- (9) Difference in observed flow Clark Fork above and below Missoula.
- (10) Adjusted for storage in Hungry Horse Reservoir. (11) Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.
- (12) Adjusted for storage in Hungry Horse Reservoir, Flathead Lake and Noxon Rapids Reservoir.

ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE







### Snowfall pH

Snow surveyors in Montana will again be making snow pl measurements in conjunction with snow surveys. This will be the fourth year that pll measurements have been made.





LATE	ARRIVING	DATA

NOW January 1984			THIS YEAR		PAST RE	COND
ORAINAGE DASIN MUTOL SHOW COURSE	0110	Snow Droth	Water Content	Walte Conte	ni (inchi i)	
NAME	Elevation	of Survey	(Inches)	(Inchai)	Loot Year	A-erala
Badger Pass	6900	1/07	27	9.5A	13.5	20.8
Blue Lake	5900	1/07	16	5.5A	10.0	10.8
Holbrook	4530	1/07	8	2.5A	3.5	4.4
North Fork Jocko	6330	1/07	55	19.0	17.0	19.3
Spotted Bear Mountain	7000	1/07	20	5.3	7.0	7.1
Stuart Mountain	7400	1/07	47	15.2	13.0	13.2
Trinkus Lake	6100	1/07	53	18.8	18.0	18.2
TV Mountain	6800	1/07	31	9.2	7.4	7.9
Twin Creeks	3580	1/07	9	3.0A	5.5	5.7
Upper Holland Lake	6200	1/07	43	13.8	11.0	15.4
		_,				

RESERVOIR STORAGE	(Thousand	Acre I	eel)	TND 01 MUNTH	December	1983
					1	

RESERVOIR STORAGE	(Thousand Acre Feet) reported	и Decembo	r 1983		
		1		that Berging	
8+110 61 34+4	RESERVOIR	[+1+*-+ Cep++1]	76 ( 73)-	5 -1 - 2 2 1	4-2-242
	COT DED 1				
Park	COLUMB1/	re .			
Kootenai	Koocanusa	5,748.2	3,619.0	3,645.0	
Flathead	Hungry Horse	3,451.0	2,611.0	3,224.0	2,299.0
	Flathead Lake	1,791.0	1,096.0	1,284.0	1,325.0
	Camas (4)	45.2	28.1	29.0	16.8
01   1   1	Mission Valley (8)	100.3	52.5	40.3	35.3
Clark Fork	Georgetown Lake	31.0	27.7	28.2	28.7
	Lower Willow Creek	4.9		1.3	1.2
	Nevada Creek	12.6	3.4	4.9	3.8
	Noxon Rapids	334.6	318.4	327.0	314.1
Bitterroot	Painted Rocks	31.7			
	Como	34.9	18.5	11.2	8.5
	MISSOURI	,			
Beaverhead	Lima	84.0	18.4	47.5	39.5
Degactuend	Clark Canyon	257.2	183.5	172.2	145.4
Ruby	Ruby	38.8	26.5	22.3	21.4
Madison	llebgen Lake	377.5	261.7		
Undizon	Ennis Lake			274.2	258.9
Gallatin	Middle Creek	41.0	31.0	30.4	33.4
		8.0	4.0	3.7	3.1
Missouri	Canyon Ferry	2,043.0	1,785.0		1,629.0
	Nalaser & Helena	61.9	63.0	63.0	62.2
	Nelena Valley	10.4	4.8		6.4
	Lake Helena	10.4	10.9	10.9	10.6
	Holter Lake	81.9	77.2	80.5	78.5
	Fort Peck Lake	18,910.0	16,250.0		16,310.0
Smith	Smith River	10.6	8.2	7.3	6.4
	Newlan Creek	12.4	8.8	8.9	9.4
Musselshell	8air	7.0	2.2	5.0	4.0
	Martinsdale	23.1	13.0	17.4	10.7
	Deadman's Basin	72.2	51.0	64.8	43.2
Sun	Gibson	99.1	43.0	54.0	41.2
	Willow Creek	32.2	23.9	23.4	21.2
	Pishkun	32.0	19.8	20.5	17.2
Marias	Lower Two Medicine	11.9			
	Four Horns	19.2			
	Swift	30.0	9.8	11.7	13.0
	Lake Frances	111.9	47.1	85.7	70.7
Milk	Elwell (Tiber)	1,347.0	691.8	689.9	510.2
	Beaver Creek	3.5	3.1	3.0	1.6
	Fresno	127.2	27.0	15.5	61.3
	Nelson	66.8	42.0	48.7	40.0
	HUDSON BA	3"			
St. Mary's	Lake Sherburne	64.3	26.5	31.4	18.3
	TIPLE ALTERNA				
	YELLOWSTON	_	10.0		
Stillwater	Mystic Lake	21.0	10.3	8.9	12.4
Clark's Fork	Cooney	27.4	16.1	15.0	12.6

### AGENCIES AND ORGANIZATIONS COOPERATING IN MONTANA SHOW SURVEYS

COARTWAINT AGENCY	23	
Canada		
Department	10	Į
Atmospho	ric	

the Environment

Atmospheric Environment Service
Water Management Service
British Columbia Ministry of Environment
inventory and Engineering Branch, Hydrology Section
Wiberta Environment

Technical Services Division

Department of the Army - Corps of Engineers
Department of Agriculture - Forest Service - Soil Conservation Service - Mational Environmental Satellite Service - National Weather Service - Bureau of Indian Affairs - Flsh and Wildlife Service - Goological Survey

- Geological Survey - National Park Service

Department of Energy - Bonneville Power Administration

STATE AGENCIES

Montana Conservation Districts
Montana Department of Fish, Wildlife and Purks
Hontana Department of Matural Resources and Conservation
Hontana State University - Agricultural Experiment Station
University of Hontana - School of Porestry

PRIVATE ORGANIZATIONS
The Anaconda Company
Big Sky of Bontana
Butte Water Commony
Flathead Valley Community College
Montana Power Company

Other organizations and individuals furnish valuable information for snow survey apport. Their cooperation is gratefully acknowledged.

MONTANA WATER SUPPLY OUTLOOK Page 4

1,356.0

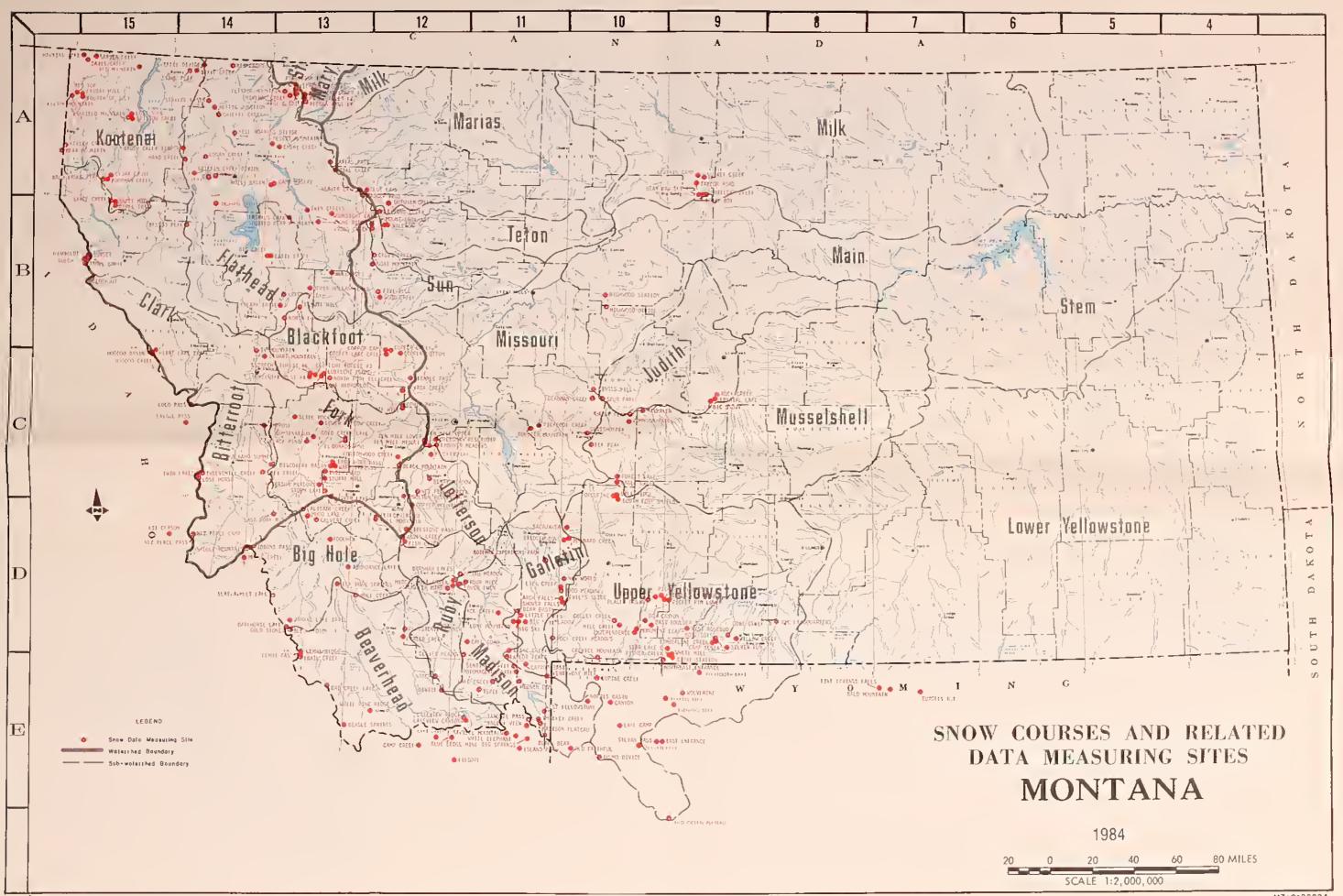
13.0

913.6

Tongue River

Tongue

Bighorn



#### INDEX TO MONTANA SNOW COURSES AND DATA SITES

					tensors In		1	77-0-471	.,				Sensors In	7,77,07,00
Show Course	Llar	Sec	Lepi	Renge	Addition to Some Country	Drainage Berin		Snow Course	Elsv.	Sec	Iwp.	Range	Addition to Show Course	Diclose Beete
Abundance Lake	8800	- 1	15	TIM		Big Hele		G165ons Pass	7100	3 70	25 22h	199 109		Billerroot
Antiose Arch Tells Ashley Olythe	£480 7350 1830	7 d 1	94 55 269	1 PN 5E 7 3W	,	Sillerisel Gallalin [[h]]		Goel Mountain Gold Carri Late Gold Stone	7000 7200 8100	11	84 85	124 169		Telam-Marthy Sus Clerk fork Telempeed
Arhley leke	4600	8	2914	574	3	hlattead		Gialahoppel	7000	19	9%	9.0		Histouri Mrin Sign
Badger Paka Bald Engla Paga	4700 \$700	1 6	27H 27H	314	A.P.I.(	Footenal		"Grave Crest Critiin Creek Divide	#300 5150	1.1	36H 78N 26H	259 259 139	5 <sub>7</sub> P <sub>+</sub> I	Footesal Unifered
Raid Pidge Banilald Fountain Baree Creat	7300 5600 5500	13 1 16	4H 32H 26H	101 104	5,1,1,2	Upper Islimations Funianal Funianal		Swinight late *Band Careh   Paul District   Pa	5015 6450	10 6 18	29N 37N	254 134	5.P.I 5.P.I.4	Unliesd Unliesd koolenal
Balas Pidery	4600	11	164	3.0₩		hoolanal		Herathi Line	8050	16	3124	126	71.114	Murrelphell
Reres [has] *Beilhi   ereh	3800 8250	17	75H 1H	10±   ##	5,2,1	kooleesi Clask Fosk		Mobile Leke Trell	4600 6550	11	14H 315	2TV JE		Clein Toin Midlion
Bello Peel Bello Peel	7180 5150	11	71 H	7W 25V	5,1,1	Clark Fork Flathwad		Hell Rouring Olvide Herulo Junction	5770 4850	15 19	344 344	7.24 234	P	Ulabberd Ulabbred
*Beigle Springs Beer Neiln	8850 8150	- 6	11-5	IIV II	5,P,1	Gearnhaid Gollatin		Highwood Divide Highwood Station	5850 1600	16	194 20N	3E	P.NSC P.NSC	Although Main Stee Histouri Pain Stee
Boar Pau Sti Area Boars Labe	57.00 1900	21 11	7.64 2.04	161 11V	Р	Hills Flaiberd		Rollings Rollings Rollings	1510 6600	1d 22	21N 15	13V	h	Listherd Gelletin
Berry Rendov	7000	6	ΞN	5W		Jeflance	-	*Noodho Bas In	6050	17	11%	7 PM 7 TV	\$ <sub>r</sub> P <sub>1</sub>	Clash tosh
Blg Sly	6750 7700	10	37 N	11	P	Talberd   Gallalin   Callalin		Receive Citals	5900 5600 7850	16 1 21	15% 75	139 116		Claim torm St. Mary Upper Tallowntone
Blo Sky Pridow Blg Snowy	6350 7150	25 25	65 174	17.6		Gallalin Judith		Independence Intergrand Jack Creek	6450 6450	6	1N 65	13V 1E		Clair tork Ridtron
"Bleck Break Bleck Mountain	7950 7750	- 11 31	155 7H	51 29	2.6.1	Midleon Clark Fork		Jehnke Loke Frail	1200	74	25	16W		Big Hola
*Black Pine *Bloody Dick	7100 7500	- 21 <sub>r</sub> 12	(U) 65	15W 16W	%,P,I 5,P,I	Clark fork Breenshied		Johnson Pask Josephine   Deer #9	6450 1900	16 22	104 35N 30N	111 16w 15w	P	Monnelita II St. Bary
Blue Jahr	5900 7150	15	764	118	A	Tekon: Max Lek: Svn Upper - tallowatone		kantar Greak Klog*a HIII	3100 7500	25 34	134	38		Histori Hilm Stem
Bolk Soth *Boulder Mountale *Bo+ Canyon	7750 7950 6670	16       	9H 6S	18E 11 121	5,P,I 5,P,I	Missous Esta Sies Opper Yallovslone		Righenelm Niwaniy Cesp	3890 37.50	14	17N 294	27W 16E	P. L.W	I lathwad HIII
Boarder Crass *Boarean Lazes level Laze	51.00	24	74N 7.5	166 51	t S.P.I.HIC	HIII Galletin		thill Chel	4750 6100	27	199	TE I	5,9,1	Hallmad Madikon
Sizehan Tikes	8850	5	15	31/		Ruby		Tales Tew Canyon	6930	26	145	2W 2W	5,6,1	Bearbalteed Bharbalteed
Bildger Bowl Bililow Criet Brush Cleek Hebet	7750 3900 5000	75 7 17	111 17 H 10 N	10 104 26W	5.P	Salition  toolonal  tookenal		'laheries Ridge leshi fahh 'leshi Widgh	7400 7460 8100	9	105	15W	5,P,1	Gearetherd Beart Hand
Bull Hountain	6600	[ñ	7 H	94		Olo Hola		'Hel Chil	6860	10	15	96 3E	5,P.1	Gallallo Gallallo
Eable Creek Call Aped	5200 8050	34 21	2.3H 65	104		Tallon-Ros fasi Sun Hadlaon		Togin Cital	¢100	31	101	ZiW		Lleibead
Calvett Creet Comp History	6410 6400	31 10	2 N 2 N	14W 189	5,11,1	Big Noise Lietbead		Time Mountain	8880 5940	25	65 1H	71 23V		Gellatin Biliprical
Comp Sinta Corrol Basto	7890		105	181	5,0,1	Opper hellowelone Gallatin		tosi Soul 'Tower Juln	4600 7900	31 12	13N 45	29W	5.F.T	Heiltron
Corke: Creek Echo Cocol	7600 7800	22 6	65 95	7W 31	5 <sub>r</sub> e,1	Brawerheed Grilelin		Tower Willow Creek *Lubracht Flume	1140 4680	13	PH L JH	11W   11W	P.NSC 5.P.I	Clash fork
Ceder Grose Clesses Statevola	1760 6200	15	28H 6H	5W		Rootenal Hissousi Hain Sien		Lubrechi fores 1 13 Lubrechi fores 1 11 Lubrechi fores 1 46	5450 4650 4048	19 23	138	15W		Clerk Josh Elest Lork
Enlichen Cheek Christensen Randir	401:0 1:000	] e 11	13H 75	SIM	P.nSC	I lai hond Braver brod		tubreciri Hydeoplel	4200	2.5	138	159		Clart fort
Eloret Perdue Cole Cital	8500 7850	78	95 75	79t	5,P,I	Opper hallowskone		Hedisor Pleisau *Hany Glecis:	1750 4900	28	145	5£  7₩	5,1° 5,8,1	Madikon St. Hrry
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Coole Shallon Cooper Bollon	8150 5100	19	95 15N	151 VS	5,11,1	Uppa I Yellowalona Class Last		Middle Hill Creek Mill Cikki	7850	17	45	3.4		Ruby
Copper Citis	6950 \$7.00	i k	15H 15H	994 994	5,r,T	Clart fort Clart fort		Mineral Citata Monument Peti	7500 4000 8850	31 31 16	55 15N 15	110 179 176	P 5,P,T	Upper Yallowstons Flathead Upper hillowstone
Copper fele Crist Copper Mountain	₩100 7700	1	15H 3H	50/ 25/		Clark fort		Montton Riservole	6850	17	114	71/	21511	Class tork
Collamenad Check Coyall Hill	6400 1200	14 12	ŽH TGN	EW FEW		Jollerson Clast fort Clast fort		Mount Alten #7 *Mount Locktrail	5700 6400	27 18	35H 25H	16V 9V	S.P.I	St. Hrry Teton-Max Lax-Sue
Charles Hountain	B100	23	9.5	91		Upper Yellowslone		Hudd Lake 'Fule Chash 'Neseds Chees	7650 8100	24	2N 55	15W	5,0,1	Blg Hole
Crystel lake Ded Greet take Oalsy Prak	6050 6400	19 24	143 143	181 13W	5,6,1	Judith Drayerta od		Naw Woald	6480	6 71	12N 35	7₩ 6€	2, 2, I	Clock Fork
*Daly Chesh *Dashbosss {ale	7500 5780 8600	3¢ 11+ 1	11h 5h 85	16A 18A 11E	β 5,P,I 5,P,I	Noncinell Sittensol Signale		Newton Hounkain	5600 5650	13	14h	31W 73V	5,P,1	Acotenal Bliketrool
Davis Coool	5100	20	17H	139	4 Lt. +1	Kootenal		Net Price Creek Net Price Park	6500 6570	16 25	ŧн 15	24M 6A		Jellaanen Glalaaneel
*Bradwan Cresh Derest Hountain	5450 5600	23 30	118	I EV	5,P,I	Historet Rein Stem Utaherd		*Nothy Basho *North Losk Elb Const	6040 6250	25 F0	268	19v	5.P.I	lathaad
Discovery Basin	0100 7050	14 21	55 6H	1,1A 19		Gelletin Clask fort		North Fork Jocks North Meadow	6130 7500	21	1.2H 1.7H 3.5	138 179 39	5,P,1	Clerk Fork Holband Krdlagn
*01.1de   01. HII1	7800 1400	11 21	132	1W gw	5,P,I	Ruby Clart fork		*Nov1hwar1 Inliance	7 150	13	95	111	5.P.(	Upper Yellowstone
*Dupuyii Cirai Logli Ciral	5750 7000	21	27 H 5 H	95i 101	5,P,I,W	History Pris Stem Hussa Istrall		Halch Ophia Park Pallanda Erwah	8500 7150 8250	18	115 11H	5A 5A		Clock Lock
Inhl Houlder S East Fork R S	9250 5400	14	7.5	121	A	Gellelin		Piletion Headows Pickel Pin 0	7200 9450	3 2 36	2H 4H 45	15W   4W   3E	5 rP	Big Hola Clark Fork Upper Tellowslone
El Doredo Mine Eli Boro Springs	7800 1800	16 71 71	2H 114 15	179 129 129		Billerroot Clart Lort Searniberd		Pickel Pin Iover	6200	1	55	[4]	p	Upper hellowhlose
Eli Prai Torry Creek	8000 *150	10 70	ен 31н	167 61	5,F,1	History Brin Stem		Pichel Pin Hiddle Pichi Pin Upper *Pichfool Cheek	7110 8100	32	55 45	14E	p	Upper hallowstone Upper hellowstore
Tally Green	5500	8	228	184		Uhlberg		Plegen Pohi h6	6650 5500	31 17	10% 354	1EW	5,P,1	St. Kiry
Flah Carea *Flaha e Creas   Taa -Boll	8000 9100	- 5 - 11	15 91	7h 341	3,8,1	Jallerson Uppar kallo-stone		*Pihe Canah Pipaniona Pana	5930 7200	5	294 N	134	5,P,1	Telon-Marles-Sun
Flatter Mountain	5700 6300	25 12	764 358	168	5,8,1	TelantHailes-Sun Elathead		*Placer Besin PMC Hendquarters	8830 3656	10   11   34	5 S 6 S	7V 11E 13E	A.S.P.T P.W.I.NSC	Uppai Yallowalone Uppai Yallowalone Uppai Yallowalone
lliete Ridge Loolnen	7500 6280	il.	[N [5	109 134		Big Hole Big Hole		Posttun Chiel  Policupline	5100	5	27H		5.P.1.W	hoolinil
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WIOMING:						
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"SPORE allow this treesetted daily by belowing

"Bleek exists to snow course only as also

